

Patent Claims:

1. Device for generating extreme ultraviolet and soft x-rays from a gas discharge, operated on the left-hand branch of the Paschen curve, in which device there are two main electrodes (1, 2), between which there is a gas-filled space (7); wherein each main electrode (1, 2) exhibits an opening (3, 4), by means of which an axis of symmetry (5) is defined; and wherein the electrodes are formed in such a manner that the gas discharge forms exclusively in the volume, determined by the aligned openings (3, 4); and wherein the plasma channel, generated on the axis of symmetry, is the source for the EUV and / or x-rays, **characterized in that** there are means (8, 9a, 9b, 13a, 13b, 14, 15, 17) to increase the conversion efficiency.
2. Device, as claimed in claim 1, **characterized in that** at least one of the openings (3, 4) on the side facing away from the space (7) is larger than on the side facing the space (7).
3. Device, as claimed in claim 2, **characterized in that** the openings (3, 4) exhibit the shape of a truncated cone.
4. Device, as claimed in at least one of the claims 1 to 3, **characterized in that** the anode opening (2) is designed as a non-continuous depression, and in particular as a blind hole.

5. Device, as claimed in at least one of the claims 1 to 4, **characterized in** that an auxiliary electrode (9a, 9b) is provided.
6. Device, as claimed in claim 5, **characterized in** that an auxiliary electrode (9a) is provided behind the opening (3, 4) of one of the main electrodes (1, 2).

key to figure 1:

Figure 1: State of the Art